Notebook, N-87-12-26

This notebook covers the period December 1887-September 1888. The first entry is by Edison. The remainder of the book was used by Charles Batchelor for notes and drawings regarding the design of the talking doll, including entries about molding materials and a small phonograph device. There are also notes and drawings relating to dynamos and wire insulation, along with a few drawings labeled "multiplex." The front cover is inscribed "Dolls" and "498." The spine is labeled "45." The pages are unnumbered. Approximately 40 pages have been used. Eight loose pages have been inserted into the book.

XE-172

N-87-12-26

Dec 26 1887.

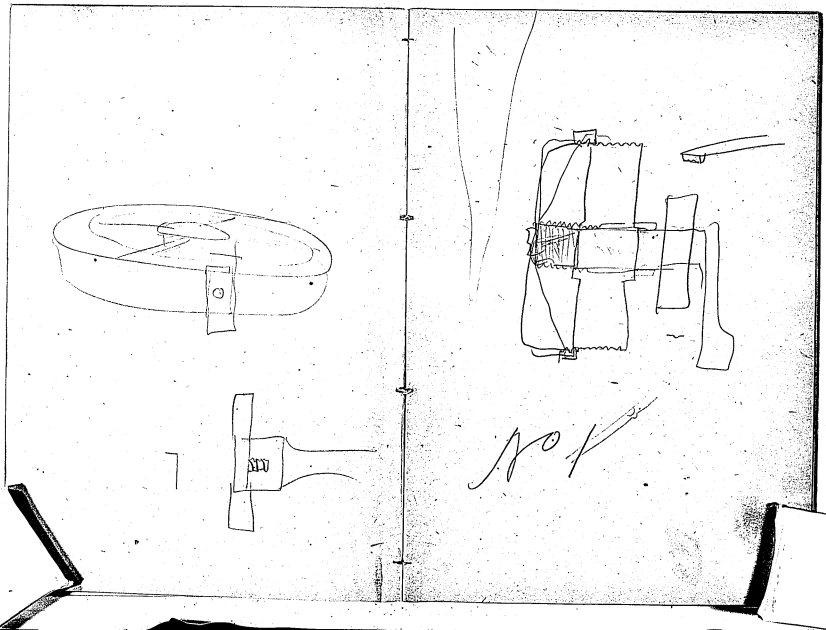
498

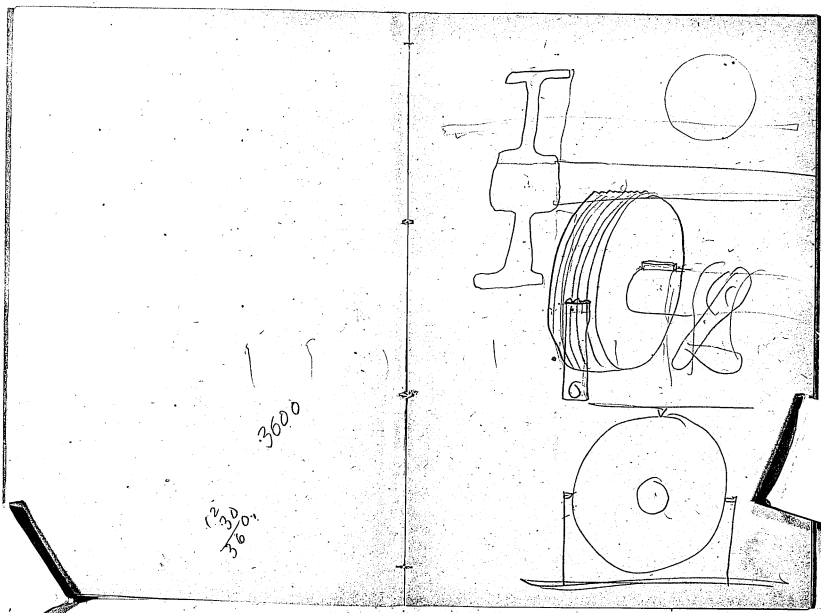
See Bergmann
Cor Ave B + 17 st for
a material that is moulded

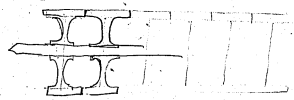
A good Moulding material
is Syrian asphalt or Hard
Cubrian asphalt mixed with
a large percentage of
Kaolin + pressed hot,
350 @ 450 Fahr — polished when
with plumbago surface.

Type metal under pressure

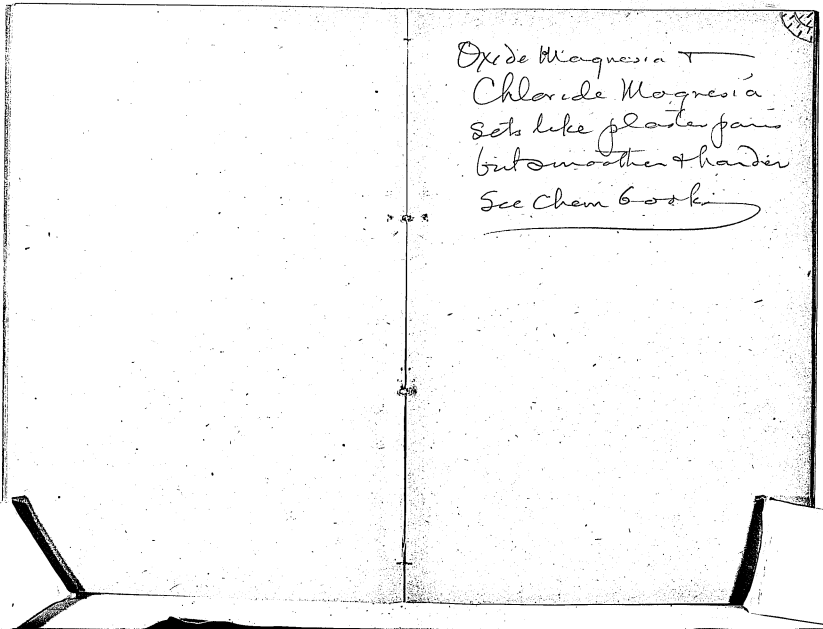
See Boston Compression
Brass Co —

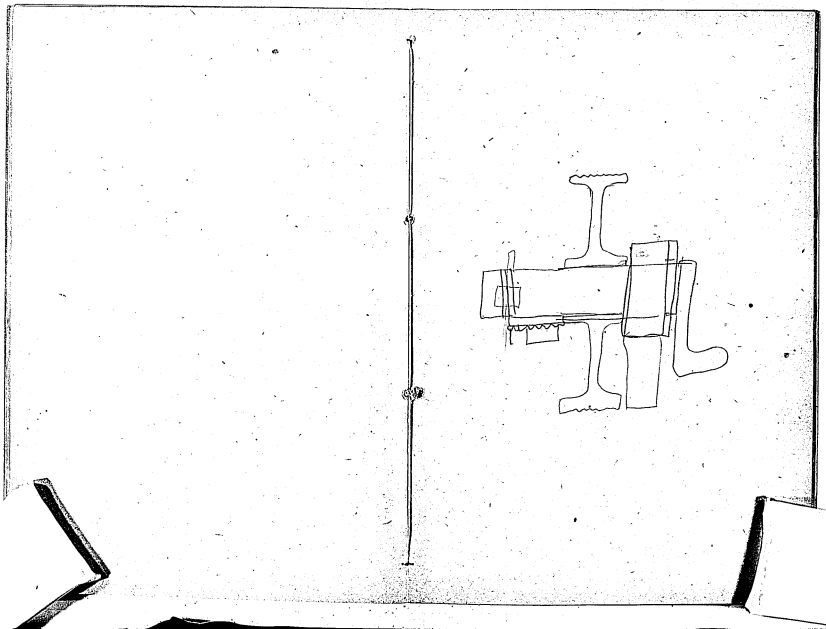


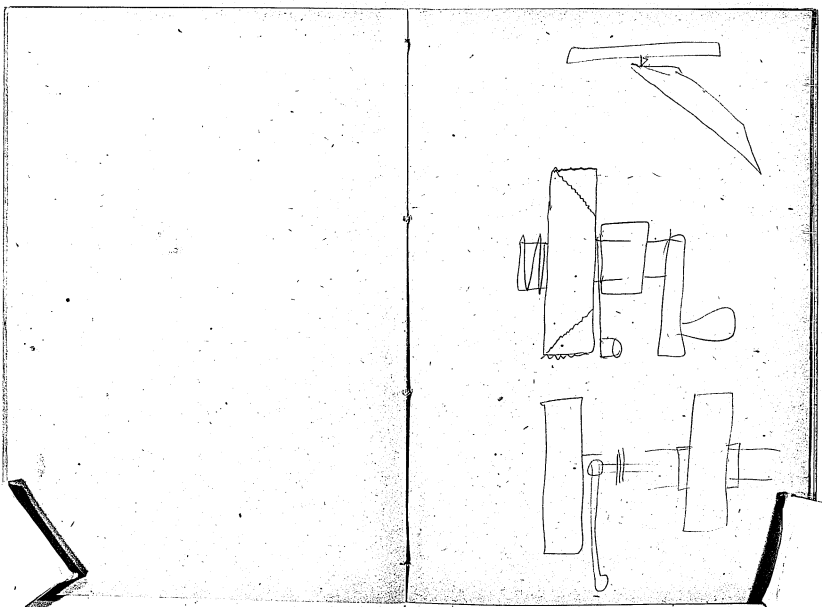

3600
(2)
3600
36

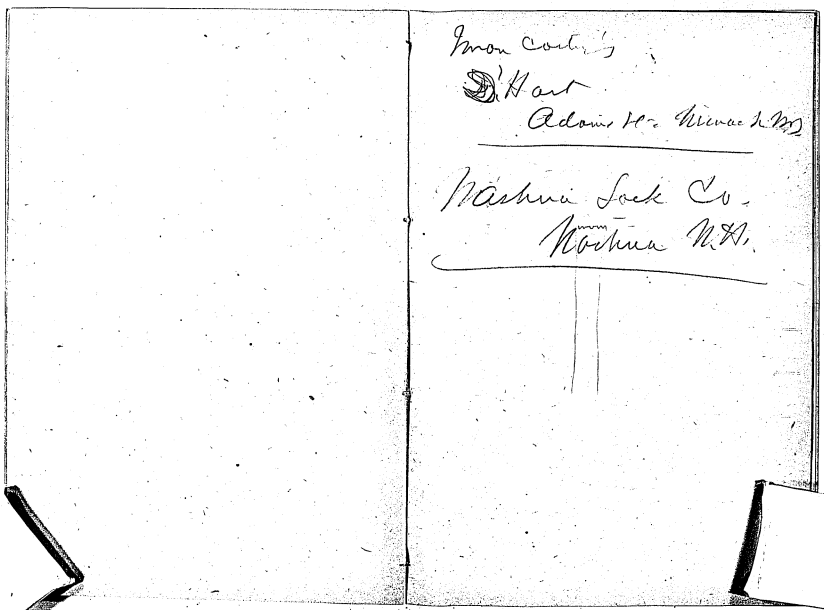


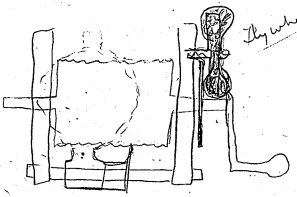
Cast unpolished, mold type metal


Oxide Magnesia +
Chloride Magnesia
sets like plaster Paris
but smoother & harder
See Chem Book



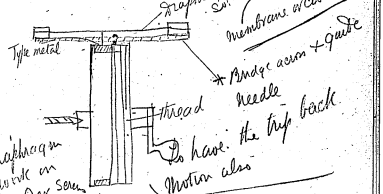


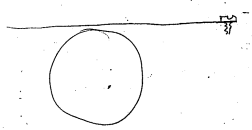

Iron Cast'g
D'Hart
Adams Mc. Nashua N.H.
Nashua Sock Co.
Nashua N.H.



Sun Apl 14 1886

CS



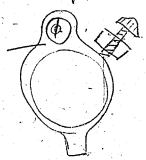


Apl. 6 1888

We must have a special tool to turn off and tackle into the cylinder which is then put into its own frame & the receiver adjusted to it

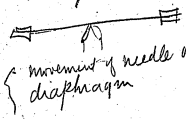
---

Receiver made without centers & with an adjusting screw so as to adjust it whilst running

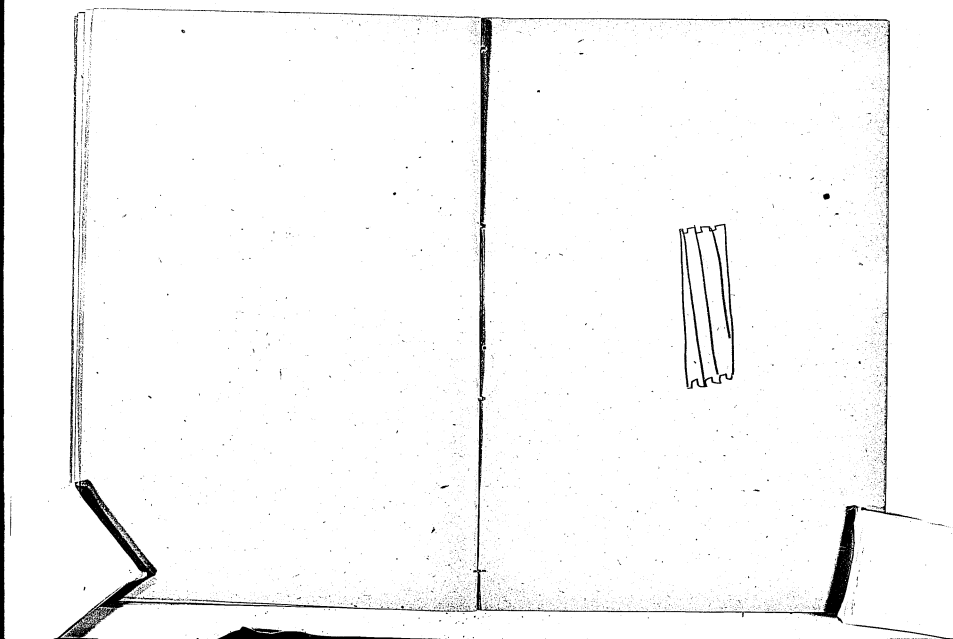


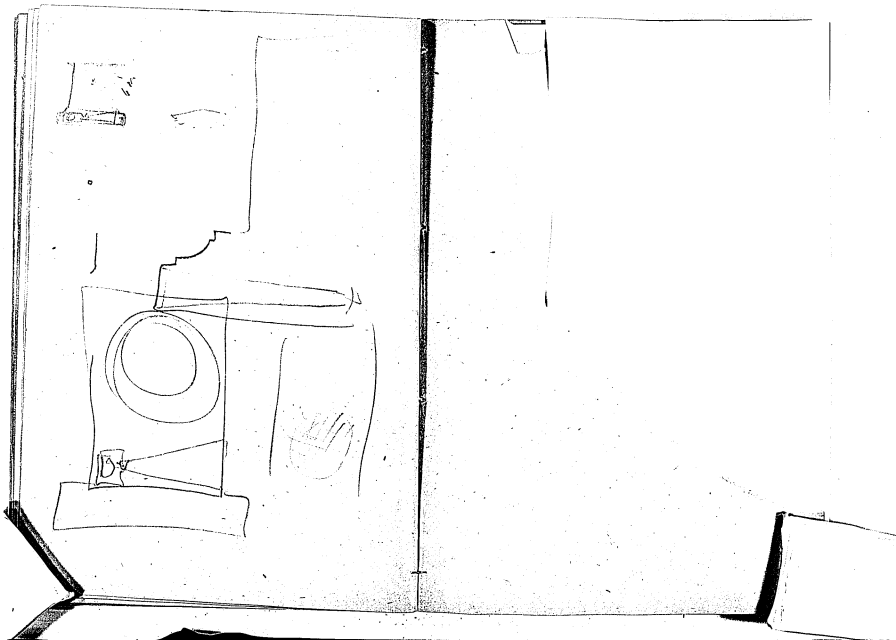
Log Apl 6 · 1878

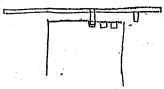
Make a tool to talk into
a ~~deep~~ ~~hard~~ cylinder having
3 turns & deep groove
Make toy consist of this cylinder
and a diaphragm the needle
of which is fastened by a
screw & can move at its
end the three threads —
Diaphragm stationary



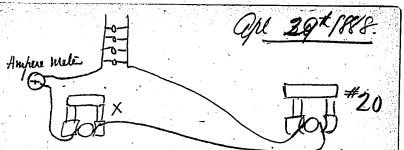
movement of needle on diaphragm



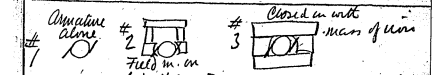




Apl 29th/1888.



Drive armature at X & put current through — note effect — No field on

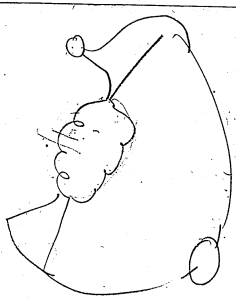


Current was taken & then put through the remaining armature & difference noted

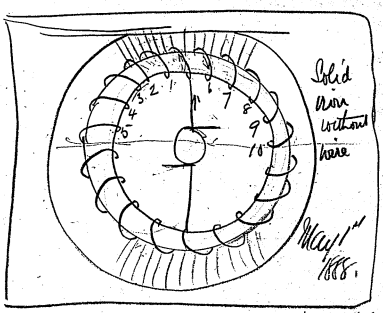
	1	2	3
Amp.	50 – 35	49 – 22	60 — 21
	41 – 30	28 – 19	48 – 20
	28 – 22	15 – 10	55 – 16
	16 – 14		24 – 14
			15 – 10

Rather bad spark on #3

CB



1-187 — 6



24 amp. 11.65 Volts drop
Drop on each side each 3 blocks

1 –	1.87 Volts	6 –	.886 Volts
2 –	3.07	7 –	2.2
3 –	4.41	8 –	3.42
4 –	5.58	9 –	4.68
5 –	6.83	10 –	5.92

Running at 1720 Rev.
Drop across 31 Volts
Amperes passing 17 –

1 –	18 V	6 –	~~[illegible]~~ – 2
2 –	28 V	7 –	~~[illegible]~~ – 14·3
3 –	34·7 V	8 –	~~[illegible]~~ – 16·5
4 –	39·6	9 –	~~[illegible]~~ – 16·5
5 –	44·25	10 –	~~[illegible]~~ – 17·6

Considerable spark.

This shows that a contrary EMF is generated which adds to current on side of 1. 2. 3. 4. 5. + deducts from 6. 7. 8. 9. 10. – Now we want to see if there is any spark when

the current is passed
through armature, when
standing but the
brushes revolving
Batchelor May 2nd 1888

136.

36 54

Wire Insulation — June 25. 1888.

Experiments

1. Ins. made as follows -

Grind up the Antimony very fine

Put 500 cc. Raw linseed Oil
231 Grammes Ant.

Run in mixer for 10 hours passing
Air through all time 80 temp min -

Then Masticate together with
2% Oxide Zinc &
5% Asphalt

the two last to be ground together fine
first

After Masticating 2 hours. Consistency
about same as regular.

A wire .036" Cotton cov & .054" Insulated
to .136" when tested (after being
put on as well as possible by hand)
infinite but only 1 ft long

Now Put in Salt water June 29th 4 p.m.
a little soft.

(Put 136) Knowlton.

Insulation June 28 1887

#2. Regular Insulation such as we have already sent to Schenectady

Raw linseed Oil Chlorinated to Saturation 100 parts by measure

Pentachloride Antimony 50 pts by measure

Chl. Oil gravity 1.014 Pent Chl. 2.24.

Pent. Chl. is dropped into mixer slowly as to prevent waste from heat.

Mixed about 5 hours then left in mixer running about 12 hours.

Washed in mixer running by boiling water until no trace of acid when it is cooled by cold water Taken out

½ hours in Macerator with Air Blast & Hot water over

To this add Ox Zinc & Asp. (Stiff Mixture).

Wire Insulation July 1st 1882

137

#3 Regular #2. a little thin
Macerated with 30% Carbonate
of Lime — this was a little too
stiff as added a little turpentine
to make it work easy —
Covered .045" wire & .081" — tested
infinity after 4 days in salt
water — It is a little too
light when it goes on & work
immediately & only 4 cadeas
properly after two days

Wire insulation

116

#4

Regular #2.

Macerated with 16% of Oxide aluminium — This could not be put on the wire

Sept. 24 1888

Model Doll Phono. for manufacturing

Doll mus says. "Jack & Gill"

2 – Winds & a stop

3 – Regulates th speed

4 – Lifts up the needle when turned backward

5 – Stops & start so that it can be wound up & left for any length of time

6 – Goes by spring

7 Has 13 revolutions

8 Weighs 2 lb. 2 7/8 oz.

9 Has ___ parts

10 Has tin cylinder

11 Has double spring each long

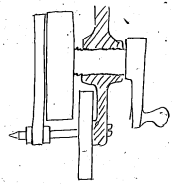
12 Has jacques resonator

13.

Model by Thos Doll

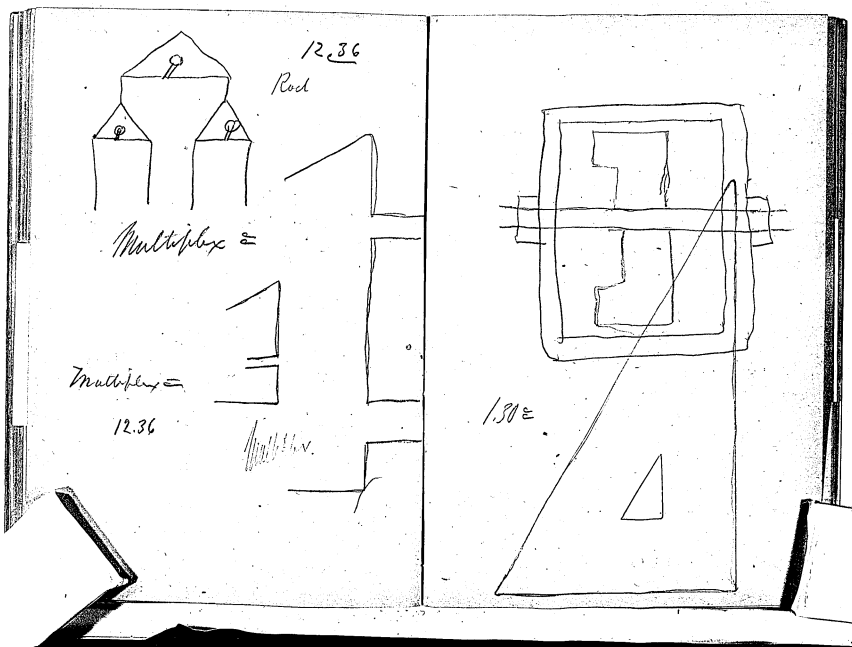
Sept 24 1855

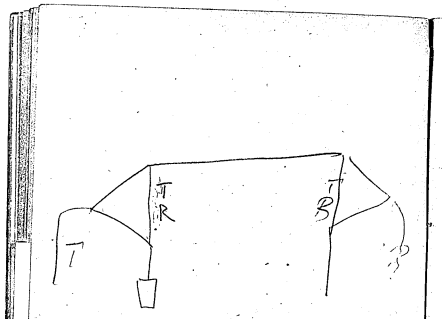
1 Instead of a belt pivot on a rubber ring "~~thus~~ ", and make it drive on a V ring —



Stop at both ends instead of Geneva

Swivel & Ram Spring & Trig. at back


12.36
Rod
Multiplex =
Multiplex =
12.36
1.30 =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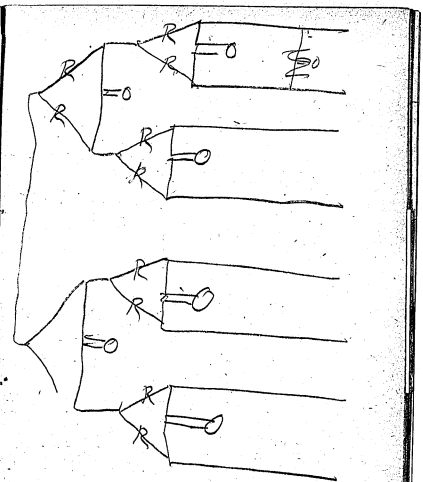
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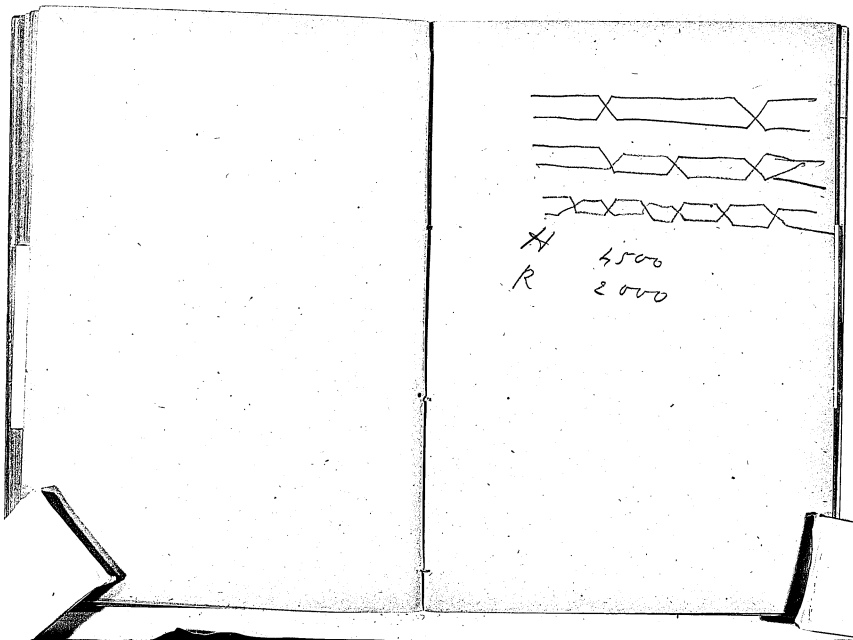
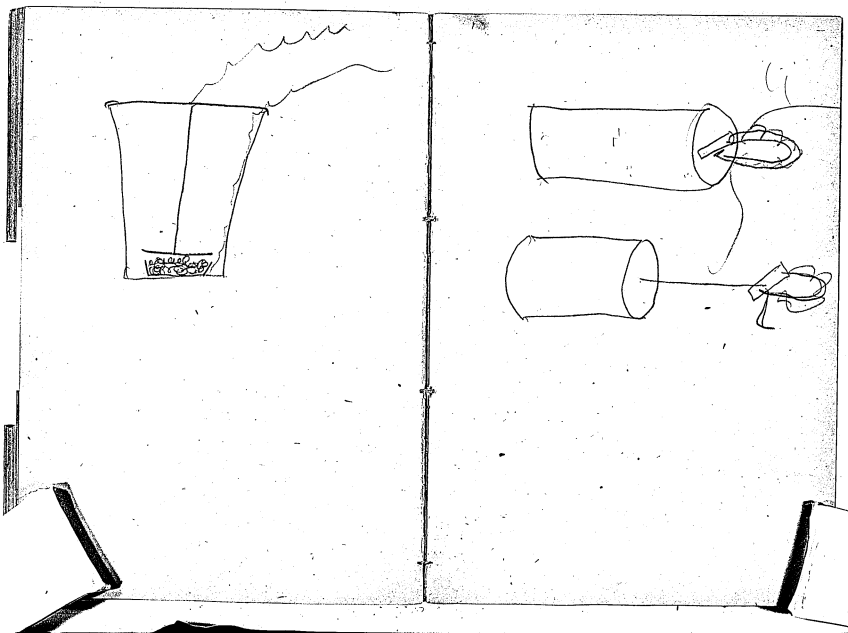
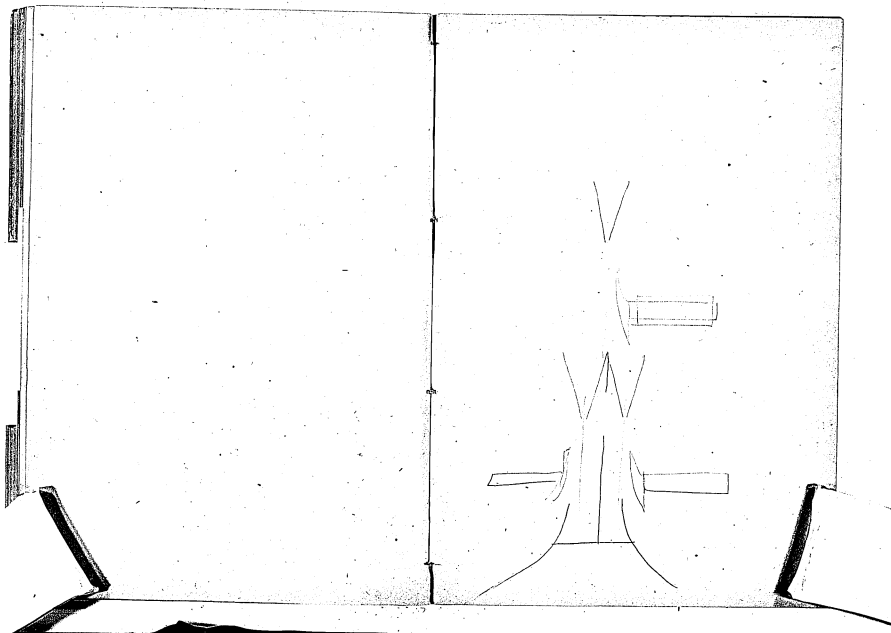

H 4500
R 2000





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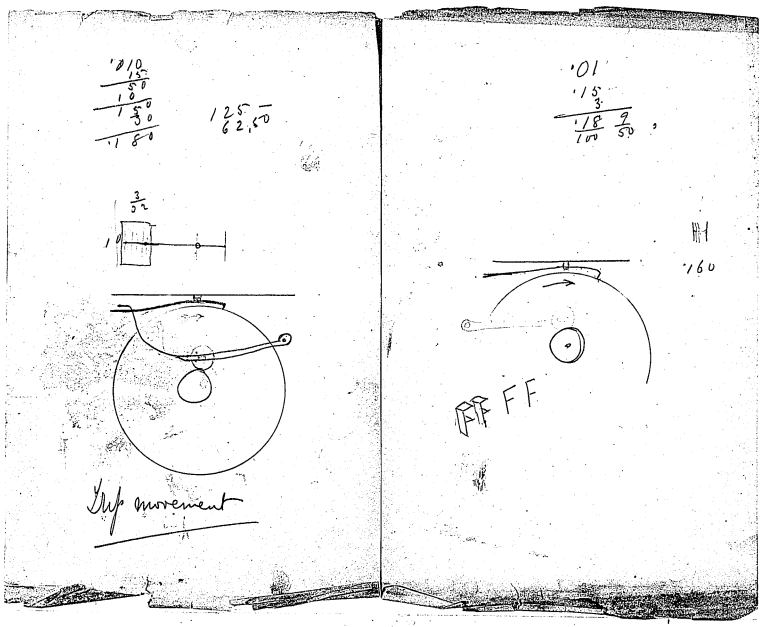

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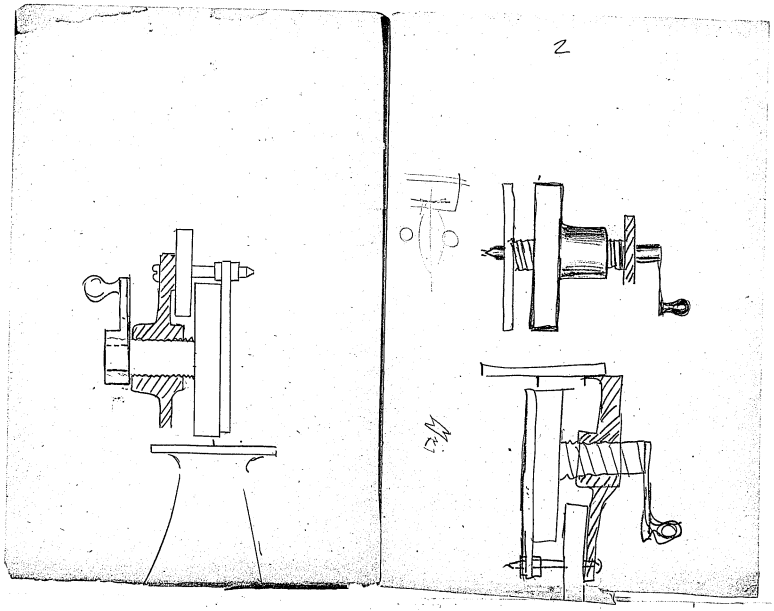

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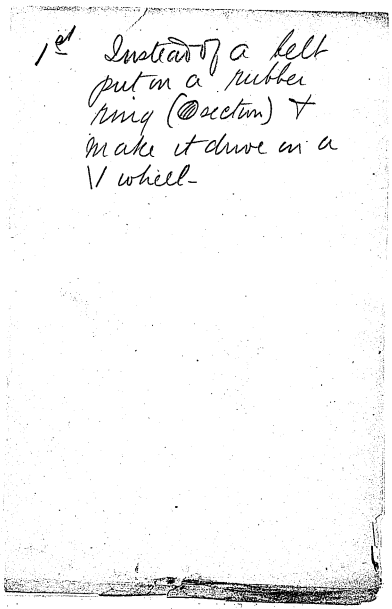
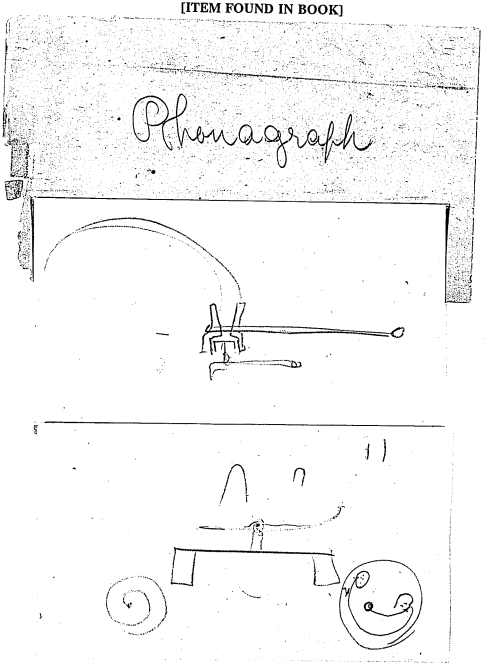
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